OIB - P-3 Orion 04/07/17 Science Report

Aircraft:
P-3 Orion (See full schedule)
Date:
Friday, April 7, 2017
Mission:
OIB
Mission Location:
Longyearbyen, Svalbard to Thule, Greenland
Mission Summary:

Mission: Sea Ice - Zigzag East (priority: high)

This mission is a repeat or near-repeat of an OIB flight flown in prior years. It is intended to sample the thick multi-year ice near the Greenland coast as well as the gradient to thinner ice closer to the pole. The eastern- and westernmost gradient lines are IceSat-2 ground tracks. In addition to Level 1 Requirements SI1 and SI2, the mission addresses sea ice level 1 baseline requirement SI3b by sampling thick multi-year ice near the northern coast of Greenland and the poleward gradient towards thinner ice. For 2017, we configure this mission as a transit mission between Thule and Longyearbyen, incorporating a low-altitude survey across the Fram Strait (copied from that portion of the Giles Gateway flight from prior years). We also occupy some 1996/2002 ATM lines over some of the Svalbard ice caps in transit to the sea ice. Finally, we arrived in the Thule vicinity this afternoon with some time to spare, so we took advantage of that by picking up some "mop-up" lines in the Inglefield Fjord and Cape Alexander areas, before we landed. We had missed these short lines during a mission last Friday due to limited airport hours that day.

We enjoyed an almost unbelievable run of favorable weather for our Svalbard evolution this week, starting with our transect across northern Greenland and the Fram Strait on Monday, including our extensive surveys across the eastern Arctic Basin in the middle of the week, and running right through today. We encountered a small area of fog for 30-40 miles of the eastern portion of the Fram Strait today which prevented our collection of optical data along that small stretch, and we encountered a few scattered clouds over the Nares Strait near the end of the flight, but otherwise we enjoyed clear skies and smooth air all day today, for better than 98% successful data return.

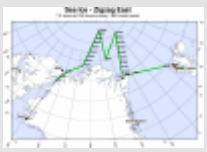
All instruments performed well. The ATM team successfully repaired a minor problem with an optical adjustment device on the T5 transceiver last night, and encountered no further problems with it today.

Data volumes:
Accumulation Radar: 309 Gb
ATM: 161 Gb
CAMBOT: 45 Gb
DMS: 123 Gb
FLIR: 16 Gb
KT19: 10 Mb
MCoRDS: 274 Gb
Narrow Swath ATM: 33 Gb
Snow Radar: 1.3 Tb

total data collection time: 7.8 hrs

Images:

Map of Sea Ice - Zrgzag East



Map of today's flight.

Read more

Research vessel Polar-Syssel

Norwegian research vessel Polar-Syssel, at work in Longyearbyen's main fjord during our departure this morning.

Read more

Svalbard glacier

A small glacier in northwestern Svalbard, as we maneuvered to survey it.

Read more

Svalbard landscape

Rugged mountains of northwestern Svalbard, from the P-3's cockpit. The entire archipelago of Svalbard is steeply mountainous and visually quite stunning, which is one of several reason it has become a popular tourist destination in recent years.

Read more

Ny Alesund

The town of Ny Alesund, and its prominent airport, in northwestern Svalbard.

Read more

Shattered pack ice

Shattered pack ice in the eastern extremity of the Fram Strait, very near the coast of Svalbard.

Read more

Cape Prince Knud

Cape Prince Knud, the northeastern extremity of Greenland and the western bookend of the Fram Strait.

Read more

Submitted by:
John Sonntag on 04/07/17
Related Flight Report:

P-3 Orion 04/07/17

Flight Number:
Science Flight #18- Combined Zig Zag East Mission and Transit ENSB to BGTL
Payload Configuration:
OIB Arctic
Nav Data Collected:
No
Total Flight Time:
8.3 hours
Submitted by:
Kelly Griffin on 04/08/17
Flight Segments:

From:	ENSB	**To:**	BGTL
Start:	04/07/17 10:05 Z	**Finish:**	04/07/17 18:22 Z
Flight Time:	8.3 hours		
Log Number:	17P006	**PI:**	Nathan Kurtz
Funding Source:	Bruce Tagg - NASA - SMD - ESD Airborne Science Program		
Purpose of Flight:	Science		
Comments:	This was a combined science and transit flight, relocating the aircraft to Thule Air Base from Svalbard.		

Flight Hour Summary:

	17P006
Flight Hours Approved in SOFRS	333.6
Total Used	307.1
Total Remaining	26.5

17P006 Flight Reports

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining
02/24/17	Airworthiness Test Flight	Check	1	1	332.6
02/26/17	Project Test Flight #1	Check	4.9	5.9	327.7
02/27/17	Project Test Flight #2	Check	3	8.9	324.7
03/07/17	Transit Flight	Transit	8.2	17.1	316.5
03/09/17	Science Flight #1 - North Pole Transect	Science	8	25.1	308.5
03/10/17	Science Flight #2 - Laxon Line	Science	8.5	33.6	300
03/11/17 - 03/12/17	Science Flight #3 - Chukchi West Line	Science	8	41.6	292

03/12/17 - 03/13/17	Science Flight #4 - North Beaufort Loop Line	Science	8.1	49.7	283.9
03/14/17 - 03/15/17	Science Flight #5 - East Beaufort Loop Line	Science	8	57.7	275.9
03/20/17	Science Flight #6 - Sea Ice South Basin Transect (to Thule)	Science	8.1	65.8	267.8
03/22/17	Science Flight #7 - North Flux 02	Science	7.9	73.7	259.9
03/23/17	Science Flight #8 - Zig Zag West Line	Science	7.9	81.6	252
03/24/17	Science Flight #9 - CryoVEx Line	Science	5.8	87.4	246.2
03/27/17	Science Flight #10 - Northwest Coastal A Line	Science	7.4	94.8	238.8
03/28/17	Science Flight #11 - North Central Cap 01 Line	Science	7.6	102.4	231.2
03/29/17	Science Flight #12 - Ellesemere Island 01 Line	Science	7.6	110	223.6
03/30/17	Science Flight #13 - Ellesemere South Line	Science	7.9	117.9	215.7
03/31/17	Science Flight #14- Alexander-Petermann Line	Science	6.5	124.4	209.2
04/03/17	Science Flight #15- Zachariae 79N Fram Straight and BGTL ENSB Transit	Science	7.4	131.8	201.8
04/05/17	Science Flight #16 - Svalbard North Line (High Priority)	Science	7	138.8	194.8
04/06/17	Science Flight #17- Svalbard South Mission (High Priority)	Science	8.5	147.3	186.3
04/07/17	Science Flight #18- Combined Zig Zag East Mission and Transit ENSB to BGTL	Science	8.3	155.6	178
04/10/17	Science Flight #19- North Central Gap 3	Science	7.8	163.4	170.2
04/11/17	Science Flight #20- CryoVex 2 (High Priority)	Science	7.8	171.2	162.4
04/12/17	Science Flight #21-Northwest Coastal C	Science	7.2	178.4	155.2
04/13/17	Science Flight #22-North Glaciers 02 Prime (High Priority)	Science	8.2	186.6	147
04/14/17	Science Flight #23-IceSat-2 North/CryoSat-2 SARIn	Science	7	193.6	140
04/17/17	Science Flight #24-Humboldt 01(High Priority)	Science	7.8	201.4	132.2
04/19/17	Science Flight #25-Sea Ice - South Canada Basin (MediumPriority)	Science	7.8	209.2	124.4
04/20/17	Transit Flight to Kangerlussuaq	Transit	3	212.2	121.4
04/21/17	Science Flight #26-Southeast Coastal	Science	8	220.2	113.4
04/22/17	Science Flight #27-Helheim-Kangerd	Science	7.8	228	105.6
04/24/17	Science Flight #28-Geikie 01 (High Priority)	Science	8	236	97.6
04/26/17	Science Flight #29-Devon-Bylot (Medium Priority)	Science	7.9	243.9	89.7
04/28/17	Science Flight #30-Penny 01 (Medium Priority)	Science	6	249.9	83.7
04/29/17	Science Flight #31-Thomas - Jakobshavn 01	Science	8.4	258.3	75.3

05/01/17	Science Flight #32-Thomas - Jakobshavn-Eqip-Store	Science	8.4	266.7	66.9
05/02/17	Science Flight #33-Thomas - ICESat-2 Central	Science	7.9	274.6	59
05/03/17	Science Flight #34-Thomas - Southwest Coastal A	Science	8.3	282.9	50.7
05/05/17	Science Flight #35-Helheim-Kangerdlugssuaq Gap B (High Priority)	Science	8.2	291.1	42.5
05/06/17	Science Flight #36-Helheim-K-EGIG-Summit	Science	8	299.1	34.5
05/08/17	Science Flight #37-Southeast Glaciers 01 (High Priority)	Science	8	307.1	26.5

Flight Reports began being entered into this system as of 2012 flights. If there were flights flown under an earlier log number the flight reports are not available online.